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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/061,151	02/04/2002	Manfred Schwartz	218469US0	9170
22850	7590	05/24/2004		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER TSOY, ELENA	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/061,151	Applicant(s) SCHWARTZ ET AL.	
	Examiner Elena Tsoy	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-10 and 13-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-10 and 13-20 is/are rejected.
- 7) ☒ Claim(s) 21-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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Response to Amendment

1. Amendment filed on April 8, 2004 has been entered. Claims 1, 11, 12 have been cancelled. New claims 21-25 have been added. Claims 2-10, 13-25 are pending in the application.

Claim Objections

2. Claim 25 is objected to because of the following informalities: "andmethacrylic acid" should be changed to – and methacrylic acid --.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 2-9, 13-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over

McMonigal et al (US 5,196,485) in view of Rehmer et al (US 5,162,415).

McMonigal et al disclose a method of coating metal substrates such as metal components of motor vehicles (See column 13, lines 34-36) by applying a clear topcoat of one-package composition comprising polyepoxide and polyacid curing agent (See column 2, lines 15-16) (further coating composition) over colored basecoat (See column 2, lines 14-25). The polyepoxide of clear topcoat has Tg of greater than 20 °C (See column 3, lines 7-7-10) and includes epoxy-containing acrylic polymers prepared by aqueous dispersion polymerization techniques (See column 4, lines 6-8). The film-forming composition of the basecoat can be **any** of the compositions useful in coatings applications, particularly automotive applications (See

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column 11, lines 7-9) such as acrylic copolymers prepared by aqueous dispersion polymerization techniques (See column 11, lines 17-28, 57-60).

McMonigal et al fail to teach that (i) the acrylic copolymers of the aqueous dispersion compositions have a glass transition temperature below 0 °C and contain from 80 to 99.5% by weight of at least one monoethylenically unsaturated, hydrophobic monomer A, from 0.5 to 10% by weight of at least one monoethylenically unsaturated monomer B selected from monocarboxylic acids, dicarboxylic acid and their anhydrides, and if desired from 0 to 10% by weight of one or more ethylenically unsaturated monomers C, different than the monomers A and B, the weight fractions of the monomers A, B and C adding up to 100% by weight, and (ii) at least one water-soluble salt or complex salt of an at least divalent metal cation (Claim 16) such as Zn^{2+} or Ca^{2+} (Claim 2), the molar ratio of carboxyl groups of the monomers B to equivalents of the metal cation in the composition is in the range from 10:1 to 1:10 (Claim 3), the monomer A is selected from the C_1 - C_{10} alkyl esters of acrylic acid, the C_1 - C_{10} alkyl esters of methacrylic acid, and vinylaromatic compounds (Claim 4), the monomer B is selected from acrylic acid and methacrylic acid (Claim 5), the first basecoat, based on its overall weight, contains from 10 to 50% by weight of copolymer (Claim 6), the first basecoat per 100 parts by weight contains from 5 to 300 parts by weight of at least one inorganic filler, at least one pigment, or a mixture of at least one inorganic filler and at least one pigment as component iii) (Claim 7), the first basecoat is applied in an amount of from 50 to 500 g/m^2 (about 40-400 microns thickness), calculated as nonvolatile constituents of the composition (Claim 13), the first basecoat comprises: i) from 20 to 90% by weight of [A], ii) from 0.1 to 5% by weight of metal ions, iii) from 2 to 25% by weight of at least one pigment and/or from 10 to 60% by weight of at least one filler, the total amount of pigment+filler not exceeding an overall amount of 75% by weight, and iv) from 0.1 to

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20% by weight, of customary auxiliaries (Claim 14); the basecoat contains at least 5 %, 10 % or 15 % by weight of water (Claims 18-20).

Rehmer et al teach that a water-dispersible (See column 8, lines 37-38) coating composition (See column 13, lines 20-21) comprising 3-75 wt % solids of one or **more** polymer resins A (See Abstract) having a glass transition temperature Tg of -30°C to about -10°C (below 0°C) (See column 7, lines 63-66), prepared by emulsion copolymerization (See column 8, lines 33-34) of from 50 to 99.9 wt % of (a) monomeric C_1 - C_{12} alkyl ester of acrylic and methacrylic acid (See column 2, lines 65+) and 0.1 to 12 wt % of (b) alpha,beta-unsaturated carboxylic acid such as acrylic and methacrylic acid (See Abstract), a and b adding up to 100 parts by weight of a polymer resin A (See Abstract) in the presence of an anionic emulsifier (See column 8, lines 40-47); one or more water-soluble polyvalent metal cations salt C (See Abstract), such as Zn^{2+} (See column 10, lines 47-48, 54) in an amount capable of neutralizing 0.5-2 times the amount of acid functions of b (See column 11, lines 12-14), up to about 85 wt % of filler F (See Abstract) including pigments (See column 12, lines 20-21) and other fillers (See column 12, lines 15-20), and minor amount of customary auxiliaries (See column 12, lines 43-59). The water-dispersible coating composition, when used for coating various surfaces including metal parts (See column 13, line 26) provides sufficient resilience and does not crack under external temperature changes (See column 13, lines 12-18).

In other words, a secondary reference of Rehmer et al is relied upon to show that a water-dispersible coating composition, which substantially identical to the composition of claims 16, 2-7, 14, can be advantageously used for coating metal components. As to concentration limitations of claim 14, it is held that concentration limitations are obvious absent a showing of criticality. Akzo v. E.I. du Pont de Nemours 1 USPQ 2d 1704 (Fed. Cir. 1987). It would have been obvious

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to one of ordinary skill in the art at the time the invention was made to have discovered the optimum or workable ranges of concentration limitations (including those of claim 14) in Rehmer et al by routine experimentation in the absence of a showing of criticality.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a water-dispersible coating composition of Rehmer et al as a first waterborne basecoat in a method of McMonigal et al with the expectation of providing the desired sufficient resilience and absence of crack under external temperature changes, as taught by Rehmer et al.

As to claims 13, 18-20, McMonigal et al further teach that after the basecoat is applied, the coated substrate is partially dried so that mixing of two coats is minimized and at the same time the basecoat is adequately wetted by the topcoat (See column 13, lines 41-62). In other words, "wetness" limitations are result-effective parameters in a coating process. Coating thickness is also result-effective parameter in a coating process.

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant wetness and thickness parameters (including those of claims 13, 18-20) in McMonigal et al in view of Rehmer et al through routine experimentation in the absence of a showing of criticality.

5. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over McMonigal et al (US 5,196,485) in view of Rehmer et al (US 5,162,415), further in view of JP 52093122

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McMonigal et al in view of Rehmer et al, as applied above, fail to teach that a particulate material having an average particle size of more than 0.1 mm is applied to the wet basecoat.

JP 52093122 teaches that by applying granules 3 having a granular size of 0.1-2 mm over wet basecoat 2 (See Translation, page 4, paragraphs 2, line 4) of e.g. acrylic resin applied to a metal plate before applying overcoat 4 of e.g. acrylic resin durability of the coated plate can be improved so that the coating is not cracked under severe environment when the coated plate is used as a roofing material (See Abstract; Translation, page 2, paragraphs 2, 3; page 3, lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied granules having a granular size of 0.1-2 mm over wet basecoat of acrylic resin applied to a metal substrate in McMonigal et al in view of Rehmer et al before applying a topcoat of acrylic resin with the expectation of providing the desired improved durability of the coated substrate so that the coating is not cracked under severe environment when the coated substrate is used as a roofing material, as taught by JP 52093122.

Allowable Subject Matter

6. Claims 21-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 21-25 are allowed because the prior art of the record does not teach or suggest that an acrylic polymer of a further coating composition does not comprise units of acrylic or methacrylic acids (Claims 21-24) or units of monocarboxylic acid or dicarboxylic acids or amides of these acids (Claim 25).

Closest prior art of McMonigal et al teach that although an acrylic polymer of one-package coating composition comprises claimed units of C1-C4 acrylates, methacrylates and

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styrenes (See column 3, lines 46-50), but claimed units of acrylic or methacrylic acids are part of polyacid curing agent and are present separately from the acrylic polymer (See column 8, lines 3-9), and they should not react with the acrylic copolymer before application to the substrate (See column 8, lines 25-30).

Response to Arguments

7. Applicant's arguments with respect to claims 2-10, 13-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

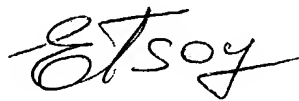
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'ETsoy', with a stylized flourish at the end.

Elena Tsoy
Primary Examiner
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May 20, 2004